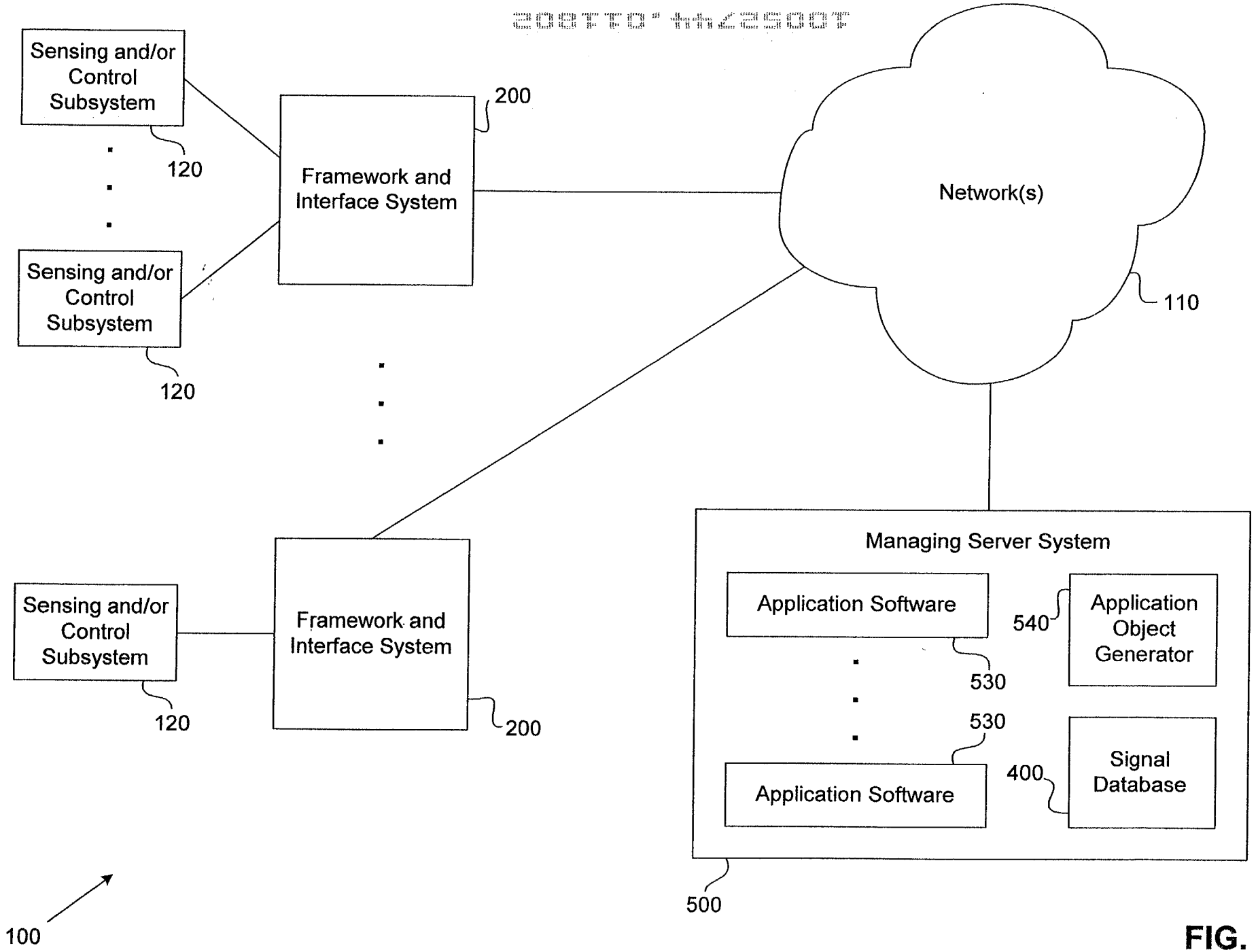
Sensing and/or Control Subsystem
120
Sensing and/or Control Subsystem
120
Framework and Interface System
200
Network(s)
110
Sensing and/or Control Subsystem
120
Framework and Interface System
200
Managing Server System
Application Software
530
Application Software
530
540
Application Object Generator
400
Signal Database
500
100

FIG. 1

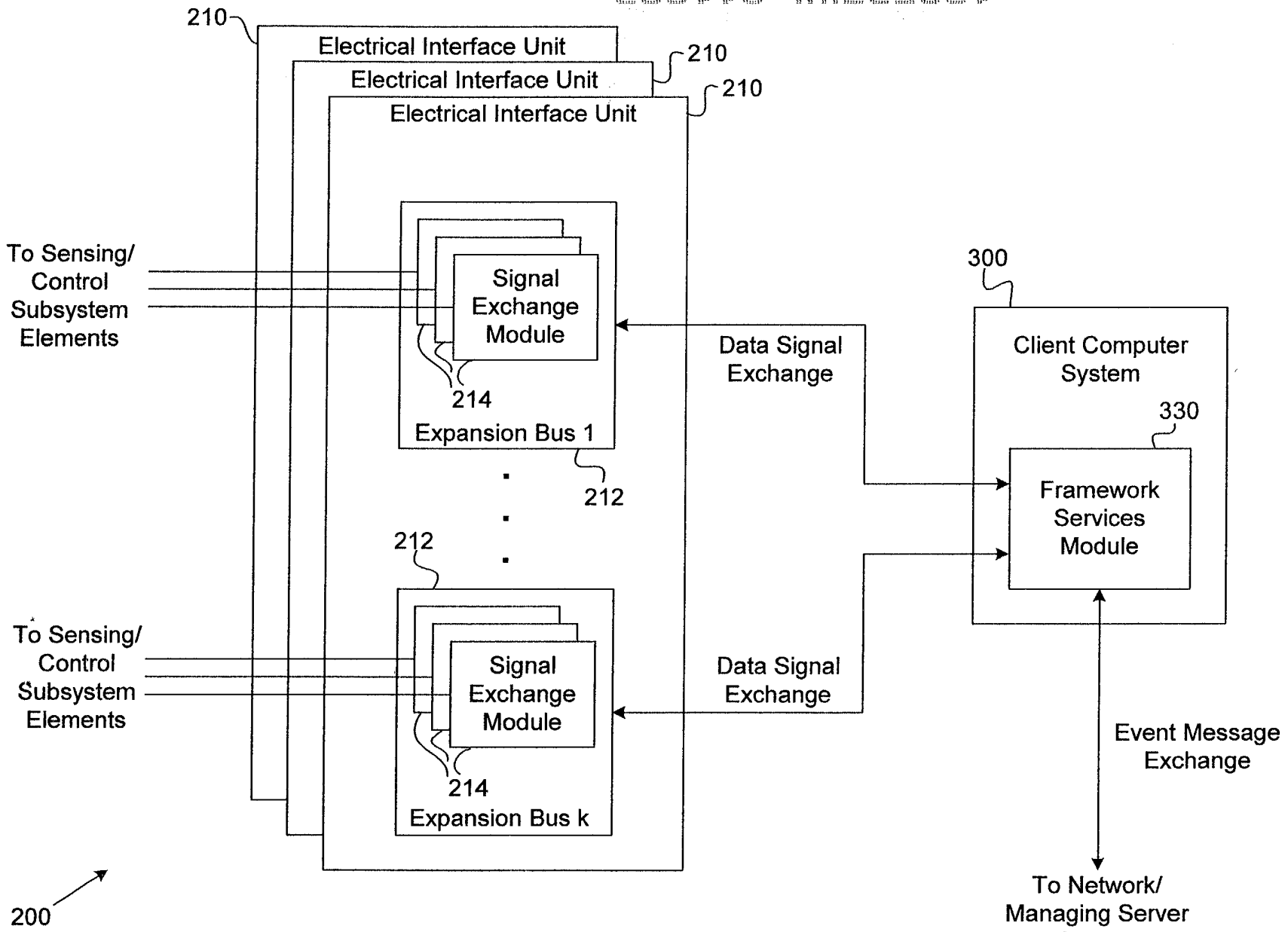
210
Electrical Interface Unit
210
Electrical Interface Unit
210
Electrical Interface Unit
To Sensing/
Control
Subsystem
Elements
Signal
Exchange
Module
214
Expansion Bus 1
212
212
To Sensing/
Control
Subsystem
Elements
Signal
Exchange
Module
214
Expansion Bus k
200
300
Client Computer
System
330
Framework
Services
Module
Data Signal
Exchange
Data Signal
Exchange
Event Message
Exchange
To Network/
Managing Server
System

FIG. 2

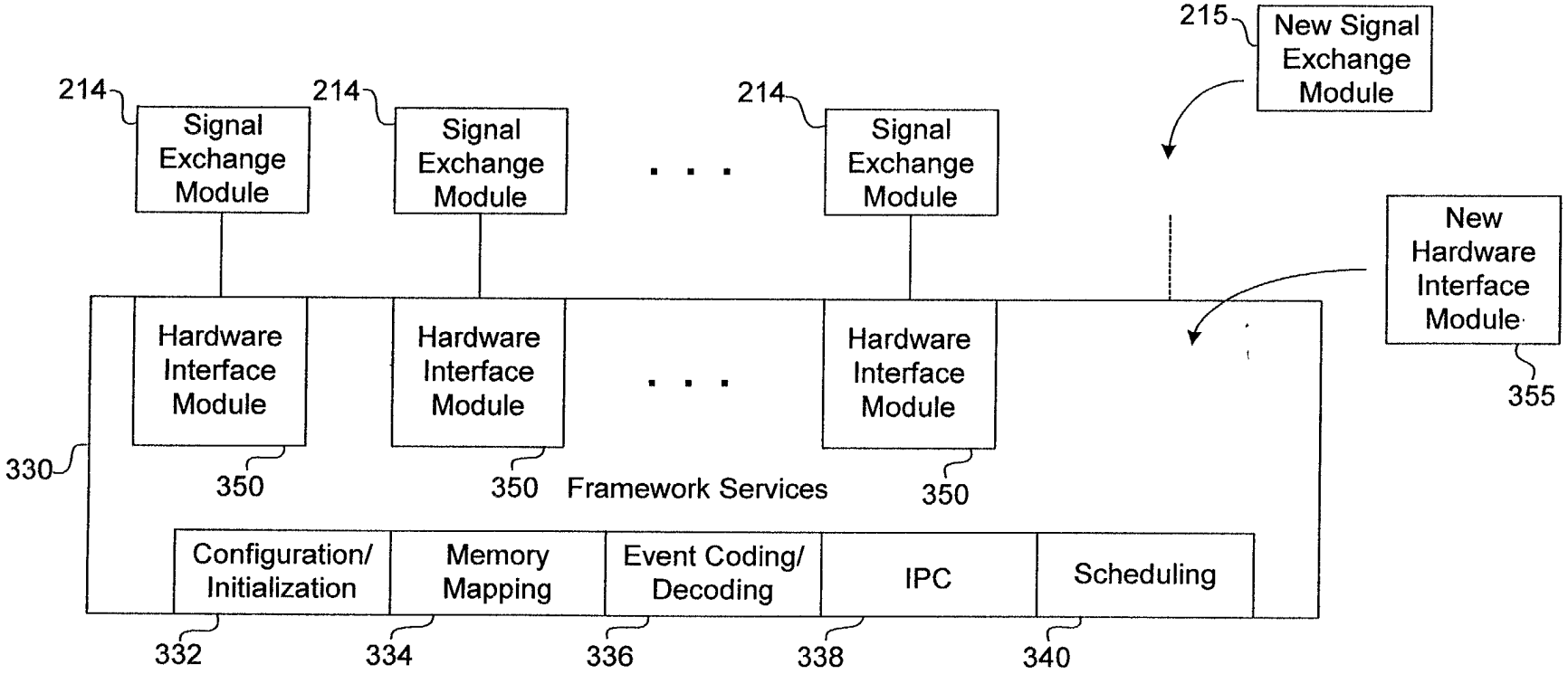
215
New Signal Exchange Module
214
Signal Exchange Module
214
Signal Exchange Module
214
Signal Exchange Module
New Hardware Interface Module
355
Hardware Interface Module
Hardware Interface Module
Hardware Interface Module
330
350
350
Framework Services
350
Configuration/ Initialization
Memory Mapping
Event Coding/ Decoding
IPC
Scheduling
332
334
336
338
340

FIG. 3

FIG. 4

Table: Carrier Board (402)	
Host	Text
EnclosureID	Integer
CarrierBoardSlot	Integer
BaseAddress	Double

Table: Enclosure (404)	
Host	Text
EnclosureID	Integer
BusInterface	Text

Table: Industry Pack (406)	
Host	Text
EnclosureID	Integer
CarrierBoardSlot	Long
IPLocation	Text
ManufactererCode	Long
ModelCode	Long
GeneratesInterrupts	Y/N
InterruptPriorityLevel	Integer
InterruptVector	Long
ioSPaceOffset	Long
ioSpaceSize	Long
idSpaceOffset	Long
idSpaceSize	Integer
ioDirection	Integer
lsbPosition	Long
Port	Integer
VPI	Integer
VCI	Integer
DebounceTime	Integer
NumberDataRegisters	Integer
Description	Text

Table: Signal (408)	
Host	Text
EnclosureID	Integer
CarrierBoardSlot	Integer
IpLocation	Text
Channel	Long
EventID	Long
SigGeneratesInterrupts	Y/N
Input	Y/N
RequiresPolarityChange	Y/N
lsb	Integer
Width	Long
ParentRegister	Long
Scaling	Long
Description	Text

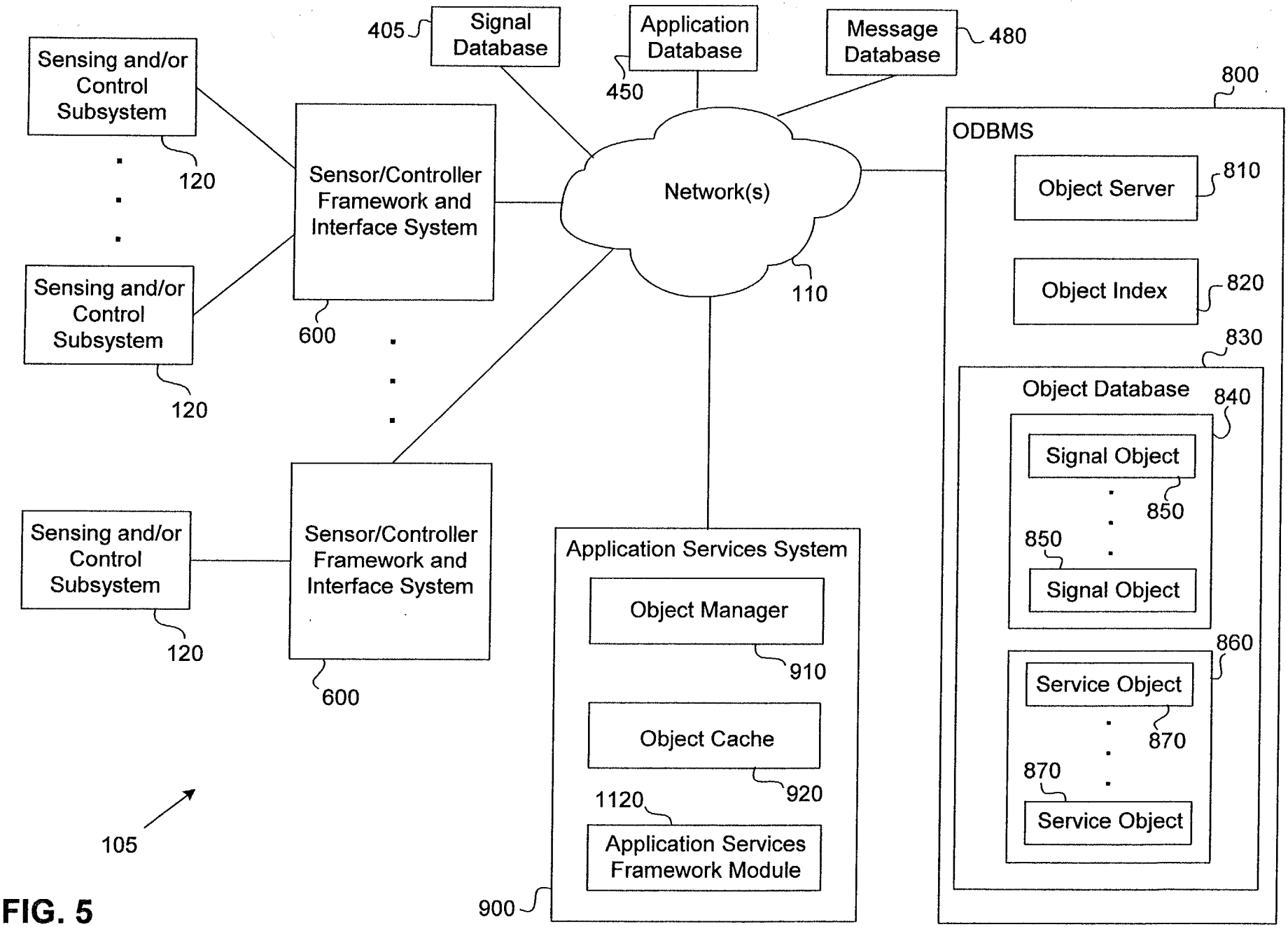
405
Signal Database
Application Database
450
Message Database
480
800
ODBMS
Sensing and/or Control Subsystem
120
Sensor/Controller Framework and Interface System
Network(s)
110
Object Server
810
Object Index
820
830
Object Database
840
Signal Object
850
850
Signal Object
600
Sensing and/or Control Subsystem
120
Sensing and/or Control Subsystem
120
Sensor/Controller Framework and Interface System
600
Application Services System
Object Manager
910
Object Cache
920
1120
Application Services Framework Module
900
860
Service Object
870
870
Service Object
105

FIG. 5

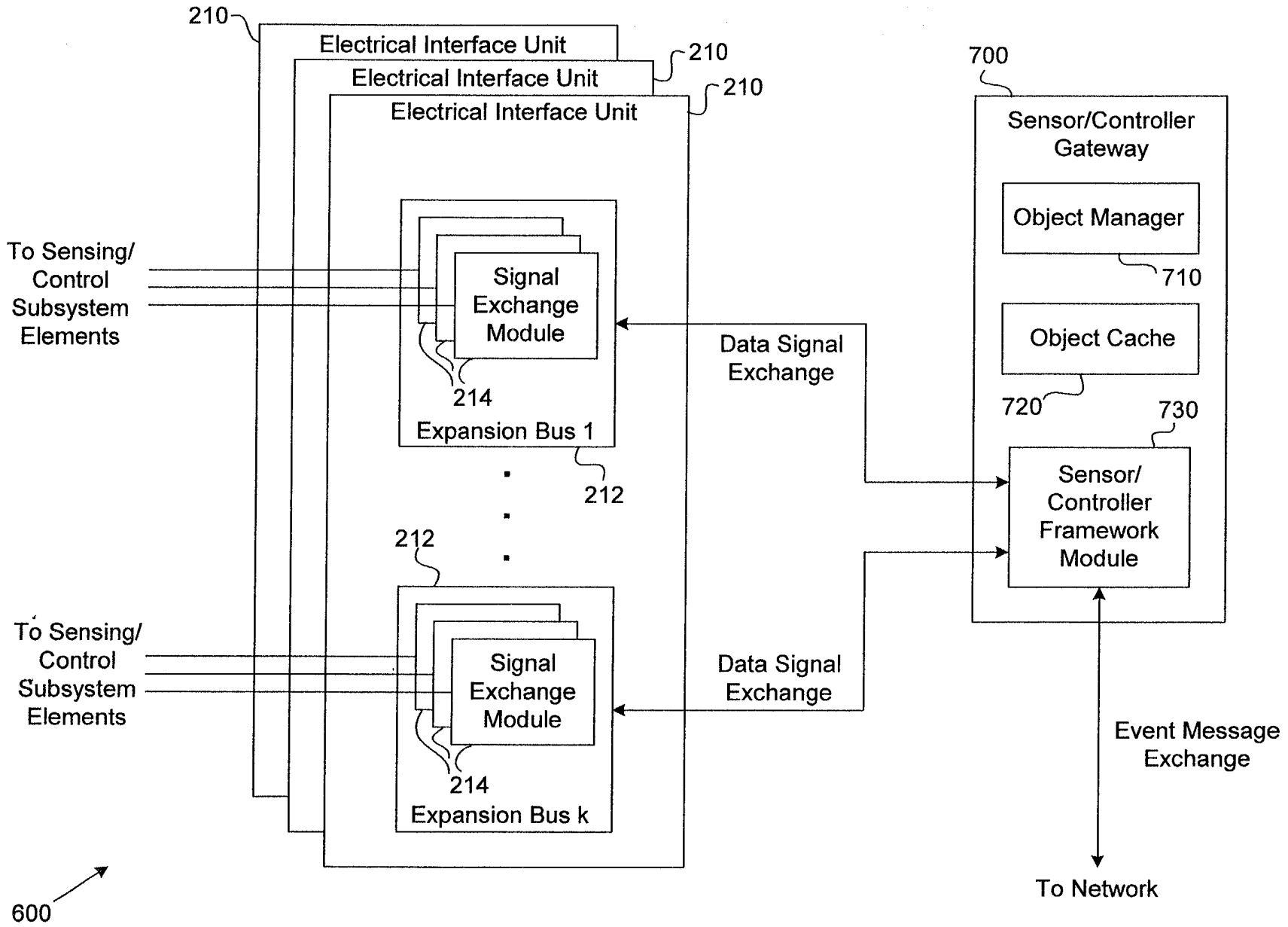
210
Electrical Interface Unit
210
Electrical Interface Unit
210
Electrical Interface Unit
700
Sensor/Controller Gateway
Object Manager
710
Object Cache
720
730
To Sensing/ Control Subsystem Elements
Signal Exchange Module
214
Expansion Bus 1
212
Data Signal Exchange
Sensor/ Controller Framework Module
212
To Sensing/ Control Subsystem Elements
Signal Exchange Module
214
Expansion Bus k
Data Signal Exchange
Event Message Exchange
To Network
600

FIG. 6

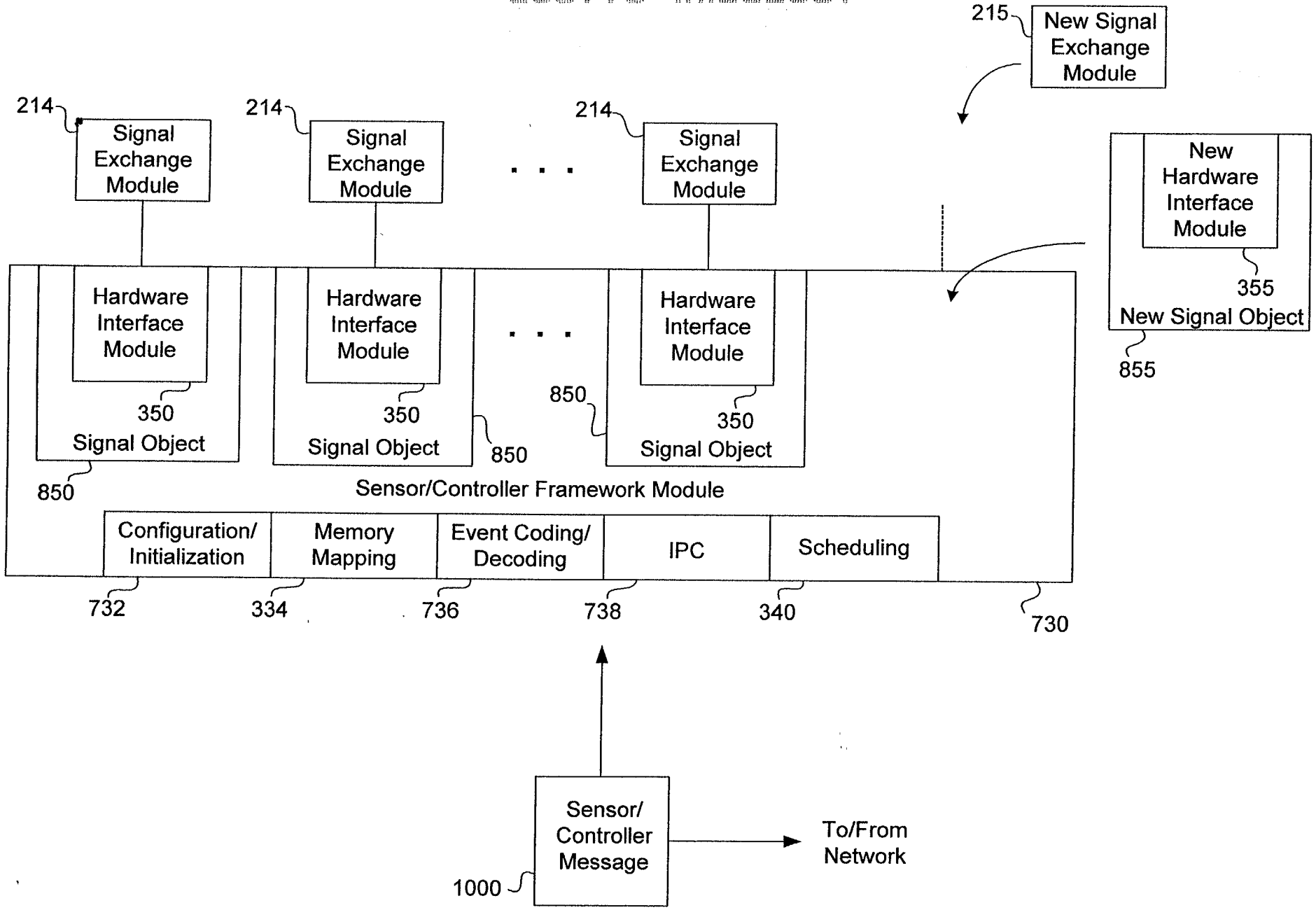
215
New Signal Exchange Module
214
Signal Exchange Module
214
Signal Exchange Module
214
Signal Exchange Module
New Hardware Interface Module
355
New Signal Object
855
Hardware Interface Module
350
Signal Object
850
Hardware Interface Module
350
Signal Object
850
Hardware Interface Module
350
Signal Object
850
Sensor/Controller Framework Module
Configuration/ Initialization
Memory Mapping
Event Coding/ Decoding
IPC
Scheduling
732
334
736
738
340
730
Sensor/ Controller Message
1000
To/From Network

FIG. 7A

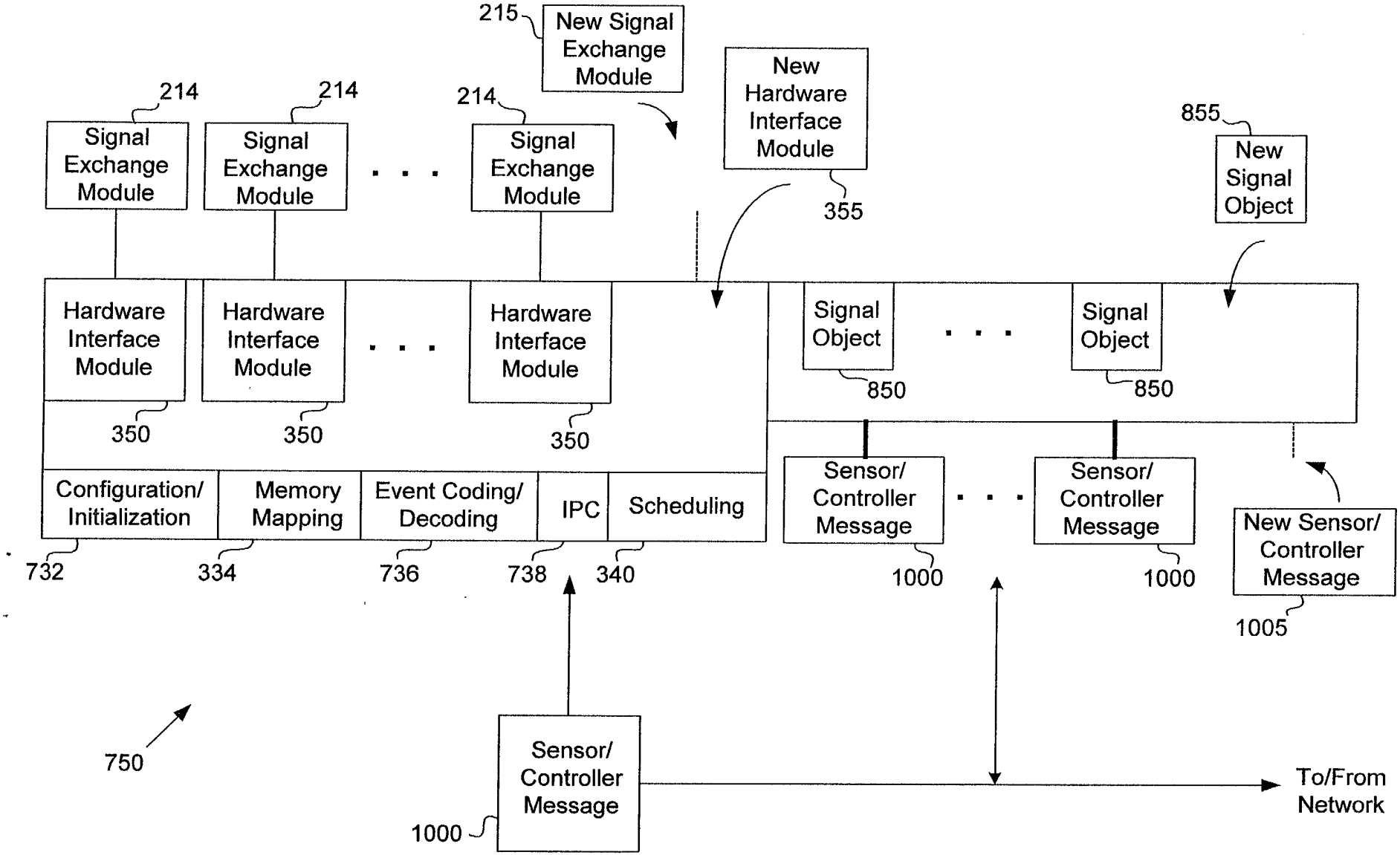
215
New Signal Exchange Module
New Hardware Interface Module
355
855
New Signal Object
214
214
214
Signal Exchange Module
Signal Exchange Module
Signal Exchange Module
Hardware Interface Module
Hardware Interface Module
Hardware Interface Module
350
350
350
Signal Object
Signal Object
850
850
Configuration/ Initialization
Memory Mapping
Event Coding/ Decoding
IPC
Scheduling
732
334
736
738
340
Sensor/ Controller Message
Sensor/ Controller Message
1000
1000
New Sensor/ Controller Message
1005
750
Sensor/ Controller Message
1000
To/From Network

FIG. 7B

FIG. 8

Table: Carrier Board (402)	
Host	Text
EnclosureID	Integer
CarrierBoardSlot	Integer
BaseAddress	Double

Table: Enclosure (404)	
Host	Text
EnclosureID	Integer
BusInterface	Text

Table: Industry Pack (406)	
Host	Text
EnclosureID	Integer
CarrierBoardSlot	Long
IPLocation	Text
ManufactererCode	Long
ModelCode	Long
GeneratesInterrupts	Y/N
InterruptPriorityLevel	Integer
InterruptVector	Long
ioSPaceOffset	Long
ioSpaceSize	Long
idSpaceOffset	Long
idSpaceSize	Integer
ioDirection	Integer
lsbPosition	Long
Port	Integer
VPI	Integer
VCI	Integer
DebounceTime	Integer
NumberDataRegisters	Integer
Description	Text

Table: Signal (808)	
Host	Text
EnclosureID	Integer
CarrierBoardSlot	Integer
IpLocation	Text
Channel	Long
EventID	Long
SigGeneratesInterrupts	Y/N
Input	Y/N
RequiresPolarityChange	Y/N
lsb	Integer
Width	Long
ParentRegister	Long
Scaling	Long
Description	Text
Object ID List	Text
Network Subscription List	Text

FIG. 9

Table: Intelligent Object	
Message IDs (482)	
Signal or Service Object ID	Text
Event Message ID List	Text

FIG. 11

Table: Application Service(452)	
Application ID	Text
Service Object ID List	Text

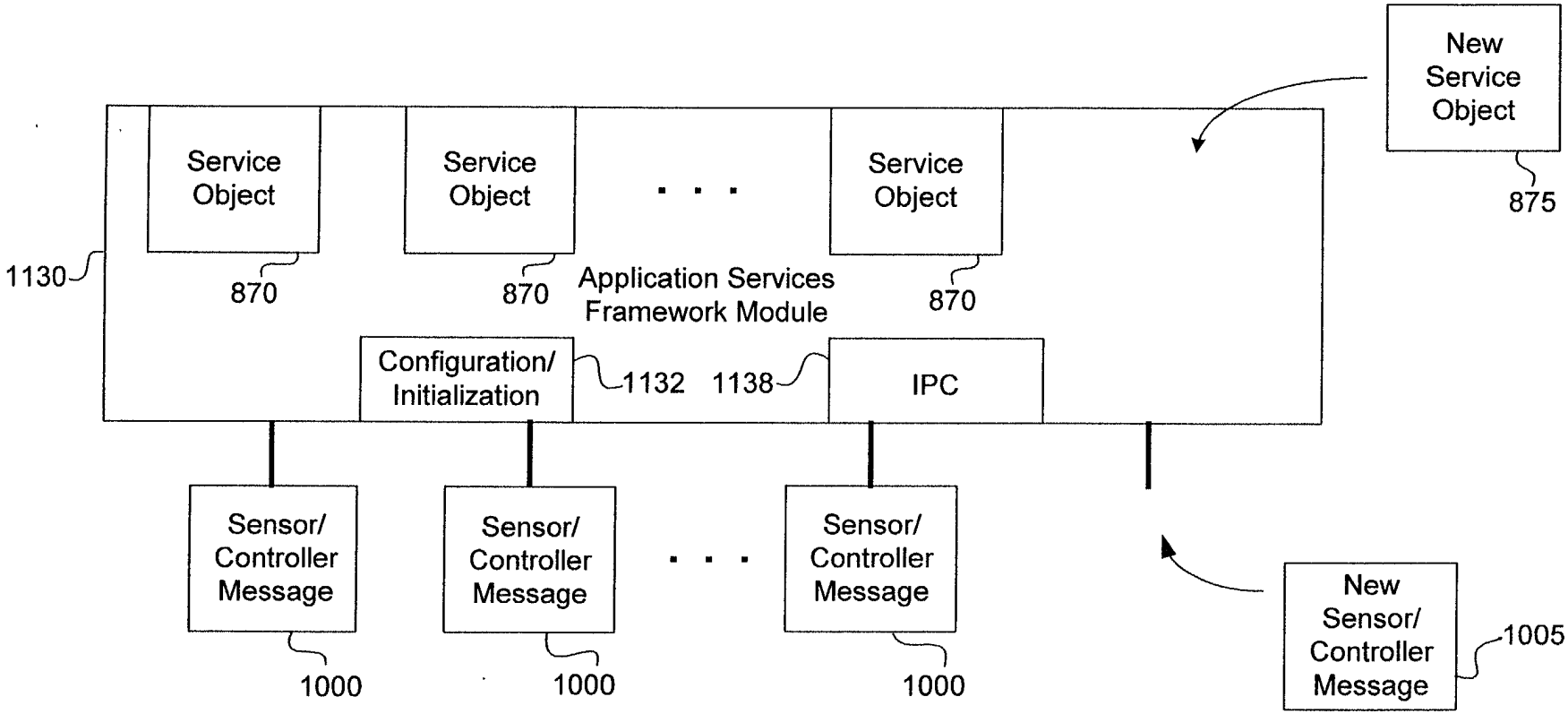
New Service Object
875
Service Object
Service Object
Service Object
1130
870
870
870
Application Services Framework Module
Configuration/ Initialization
1132
1138
IPC
Sensor/ Controller Message
Sensor/ Controller Message
Sensor/ Controller Message
1000
1000
1000
New Sensor/ Controller Message
1005

FIG. 10

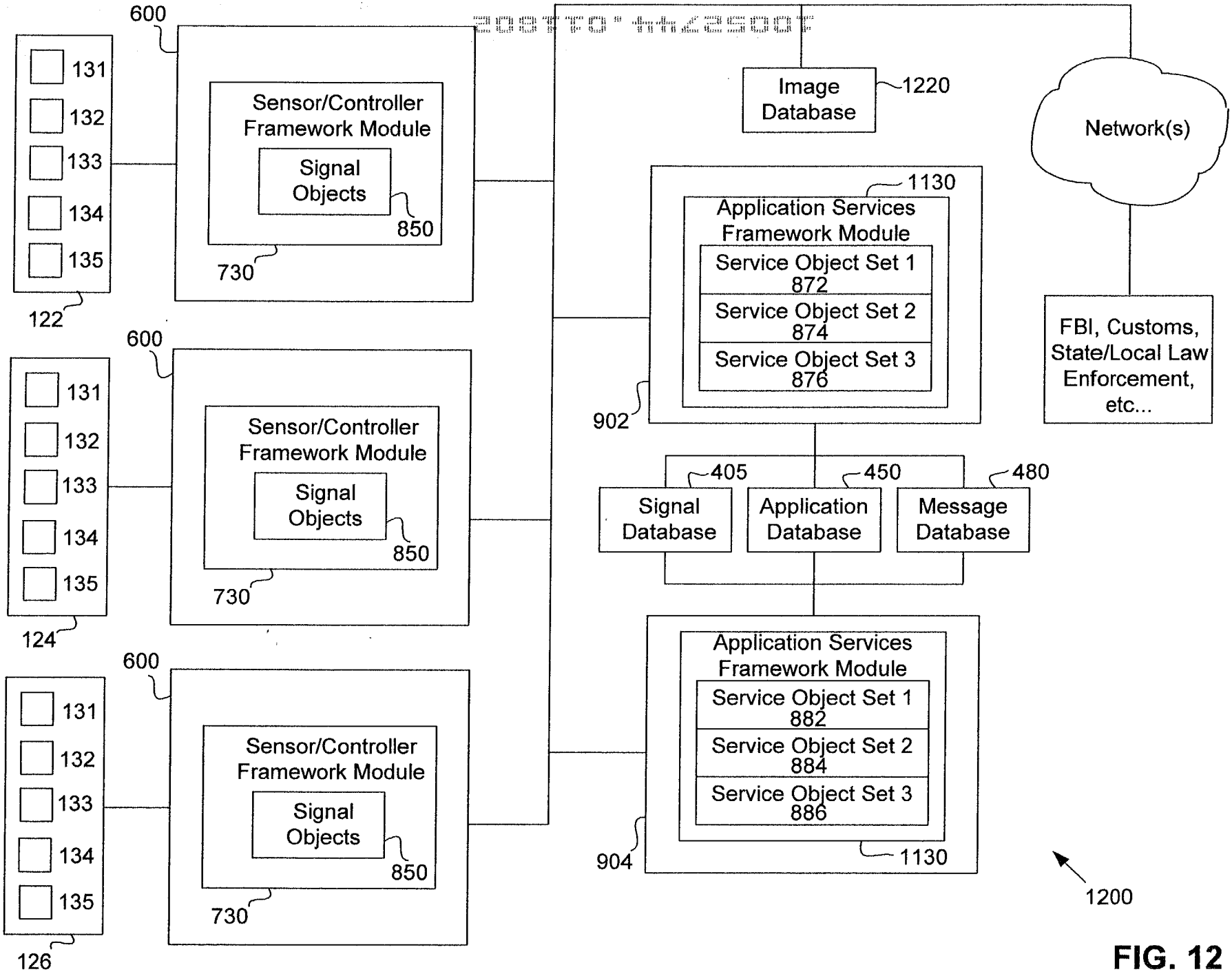
600
131
132
133
134
135
122
Sensor/Controller Framework Module
Signal Objects
850
730
Image Database
1220
Network(s)
1130
Application Services Framework Module
Service Object Set 1
872
Service Object Set 2
874
Service Object Set 3
876
902
FBI, Customs, State/Local Law Enforcement, etc...
405
450
480
Signal Database
Application Database
Message Database
124
126
882
884
886
904
1200

FIG. 12